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(54) Title: QUATERNARY AMINO-FUNCTIONAL CHALCONES

(57) Abstract: The present invention provides novel quaternary amino-functional chalcone derivatives and analogues exhibiting interesting antibacterial activity. The compounds have the general formula  $(Y^1)_m-Ar^1(X^1)-C(=O)Var^2(X^2)-(Y^2)_p$  (I), wherein V designates  $-CH_2-CH_2-$ ,  $-CH=CH-$  or  $-C=C-$ ;  $Ar^1$  and  $Ar^2$  independently are aryl and heteroaryl;  $m=0, 2$ ,  $p=0, 1, 2$ ,  $m+p>0$ ; each  $Y^1$  and  $Y^2$  independently is  $-Z-N^+(R^1)(R^2)R^4 Q^-$  (A);  $-NR^3-Z-N^+(R^1)(R^2)R^4 Q^-$  (B), or  $O-Z-N^+(R^1)(R^2)R^4 Q^-$  (C),  $R^1, R^2, R^3, R^4, X^1, X^2$  are substituents, and  $Q^-$  is an anion. The present invention also relates to the compounds for use as pharmaceutically active agents, in particular against bacterial infections (such as Gram-negative and Gram-positive bacteria, including antibiotic-sensitive or resistant strains), and in the medical treatment of bacterial infections in mammals.

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